

IN THE CLAIMS:

Please amend Claim 1 as follows:

1. (Twice Amended) An additive composition for a liquid combustible fuel wherein the liquid combustible fuel is selected from the group consisting of [gasoline, kerosene,] diesel fuel, heating fuel and [other] heavier liquid petroleum [distillates], fuels which additive comprises:

(a) one or more alcohols selected from the group consisting of water soluble alcohols :

(i) ethanol in an anhydrous state, ethanol having between about 0.5 to 36% water by volume, ethanol having methanol up to 5% by volume of ethanol added, or ethanol having between about 0.5 and 36% water by volume and also having methanol up to 5% by volume of ethanol added,

(ii) [optionally] n-propanol, iso-propanol, n-butanol, iso-butanol, n-pentanol or iso-pentanol, and

(iii) combinations of (a) (i) and a (ii);

[one or more of the following components selected from (b), (c) or combinations of (b) and (c):]

b. one or more alcohols selected from the group consisting of:

(i) straight-chain or branched-chain, saturated or unsaturated alcohols having between about 6 and 12 carbon atoms;

(ii) [optionally] straight-chain or branched chain, saturated or unsaturated alcohols having between about 13 and 18 carbon atoms; and

(iii) [optionally] one or more ethoxylated alcohols selected from the group of alcohols having between 6 and 18 carbon atoms wherein the ethylene oxide add-on is less than 5 moles; and

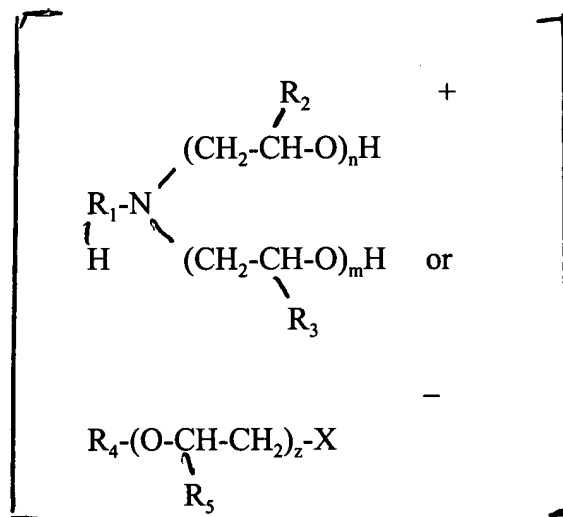
(iv) combinations of (b) (i), (b) (ii) and (b) (iii); and

(c) a fatty acid of the structure $R-(C=O)-OH$, wherein R is selected from alkyl, alkenyl or alkynyl having between about 10 to 24 carbon atoms, in combination with a source of nitrogen in an anhydrous state or as an aqueous solution selected from the group consisting of the ammonia, [hydrazine, alkyl hydrazine, dialkyl hydrazine,] and urea [, and

ethanolamine, monoalkyl ethanolamine, and dialkyl ethanolamine wherein alkyl is independently selected from methyl, ethyl, n-propyl or isopropyl, wherein trialkylamines are excluded];

wherein component a and one or more of components b, c, or combinations of b and c thereof as the additive when combined with mixing with liquid combustible fuel form a clear, stable microemulsion fuel composition having a viscosity similar to that of the liquid combustible fuel, [and where the ratio of liquid combustible fuel] within $\pm 10\%$ of the original viscosity of the fuel, and wherein the ratio of liquid combustible fuel additive ranges from about 50:50 to 99:1 by volume producing a microemulsion liquid fuel composition,

[wherein said liquid fuel composition as a microemulsion excludes the presence of ethylene glycol, glycerine, polyethylene, polypropylene, added aromatic organic compounds, sulfur, sulfur compounds, metals, metal compounds, compounds of phenanthrene, and emulsifiers of the general formula:]



[wherein R_1 and R_4 each independently is a saturated or unsaturated, straight-chain or branched hydrocarbon aliphatic radical each of 4 to 24 carbon atoms selected from alkyl or alkenyl or R_4 is alkylphenyl of 1 to 18 carbon atoms in the optionally branched alkyl chain or H; R_2 , R_3 and R_5 each independently represent a methyl group or H, n plus m is an integer from 1 to 20; z is an integer from 0 to 15; and X is $-\text{COO}(-)$ or $-\text{OCH}_2\text{COO}(-)$, wherein, substituents R_2 , R_3 and R_5 are the same or different in different monomer units of each chain, and other organic diacids;

with the proviso that when the combustible fuel is gasoline component (c) is excluded and

with the proviso that when the additives for diesel fuel are anhydrous, component (c) is optional,

wherein the microemulsion formed meets existing U.S. Environmental Protection Agency (EPA) fuel property specifications for use in existing engines requiring little or no retrofit of the existing engines and when combusted emits reduced exhaust emissions to meet existing U.S. Environmental Protection Agency (EPA) exhaust emission specifications,]

wherein said additives contain only atoms of carbon, hydrogen, oxygen and nitrogen.

Please examine Claims 30-58.

Please cancel claims 30 to 35, 40, 41 and 54 to 58 without prejudice or disclaimer.

36. (Amended) The additive of claim 1 wherein the combustible fuel is [selected from the group consisting of] diesel fuel[, kerosene, heating oil, or heavier other petroleum distillates] wherein;

in subpart (a) the ratio of (a)(ii) is between about 100:00 to 50:50 where[9a)] (a) (i) is anhydrous and [aqueous] water is excluded,

in subpart (b) the ratio of (b)(i):(b)(ii) + (b)(iii) is between about 100:0 to 50:50,

in subpart (b) the ratio of (b)(ii):(b)(iii) is between about 50:50 [100:0 to 0:100] , and

in subpart (c) is excluded.

42. (Amended) The additive of claim 1 wherein the combustible fuel is selected from the group consisting of diesel fuel, [kerosene,] heating oil or [other] heavier petroleum [distillate] fuels wherein:

in subpart (a) the ratio of (a)(i):(a)(ii) is between about 100:0 to 50:50 where (a)(i) is anhydrous or 0.5 to 10% aqueous,

in subpart (b) the ratio of (b)(i):(b)(ii)/(b)(iii) is between about 100:0 to 50:50,

in subpart (b) the ratio of (b)(ii):(b)(iii) is between about 100:0 to 0:100, and

in subpart (c) nitrogen is present to neutralize between about 40 to 85% of the fatty acid.

43. (Amended) The additive of claim 42 wherein:

the ratio of subparts (a):(b) + (c) is between about 75:25 to 40:60,

the ratio of subparts (b):(c) is between about [100:0 to 0:100] 90:10 to 0:100.

48. (Amended) The additive of claim 42 wherein the combustible fuel is selected from the group consisting of diesel fuel, [kerosene,] heating oil and [other] heavier [distillate] liquid petroleum fuels wherein:

in subpart (a) the ratio of (a)(i):(a)(ii) is between about 100:0 to 50:50 where (a)(i) is anhydrous or 11 to 36% aqueous,

in subpart (b) the ratio of (b)(i):(b)(ii)/(b)(iii) is between about 100:0 to 50:50,

in subpart (b) the ratio of (b)(ii):(b)(iii) is between about 50:50 [100:0] to 0:100, and

in subpart (c) nitrogen is present to neutralize between about 40 to 85% of the fatty acid.

49. (Amended) The additive of claim 48 wherein:

the ratio of subparts (a):(b) + (c) is between about 50:50 [60:40] to 40:60, and

the ratio of subparts (b):(c) is between about [75:25] 50:50 to 0:100.

REMARKS

Applicant has amended the claims extensively. They reflect some of the modifications of the claims now pending in the equivalent PCT application, PCT/US99/00598 as examined by Ellen McAvoy in the USPTO at (1-703-308-0661). Applicant responded with similar claims to the Written Opinion in the PCT by Express Mail on March 7, 2000.

Applicant enclose a copy of the PCT International Preliminary Examination Report dated 12 July 2000. It was issued by Ellen McAvoy of the USPTO (telephone (703) 308-0661). Note that in Section V, the attached claims met the requirements of PCT article 33 (2)-(4).

If these claims are acceptable in the PCT examination by a U.S. patent examiner, then this should weigh heavily for patentability in the U.S. application now having essentially identical or more limited claims.

The amendments to claim 1 include:

Claiming only diesel fuel, heating fuel, and heavier liquid petroleum fuels,

a is ethanol,

b is 6 to 12 carbon atoms and

c is fatty acid and nitrogen

which components produce a clear stable microemulsions and improved combustion.

No new matter has been added to the application.